

**Central Gulf of Mexico Ocean Observing System (CenGOOS): Integration and
Enhancement of Observing System Elements**
University of Southern Mississippi

A major recommendation of the U.S. Commission on Ocean Policy (USCOP) and an area targeted for funding by the National Oceanic and Atmospheric Administration (NOAA) and other agencies is the development of coastal and ocean observation systems. A key element in this effort is the establishment of regional ocean observation networks, which will contribute to an evolving national integrated ocean observing system (IOOS). Since 2004, The University of Southern Mississippi's Department of Marine Science (DMS) has been providing leadership and expertise in the development of a Governance and Business Plan for the Gulf of Mexico Coastal Ocean Observation System Regional Association (GCOOS-RA). In addition, DMS launched the initial phase of the Central Gulf of Mexico Ocean Observing System, or CenGOOS, by the establishment of a three-meter ocean observing buoy south of Horn Island, MS. This buoy is equipped to monitor and report a variety of ocean and meteorological observations. Installation of this buoy has provided experience with instrumentation, data telemetry, and logistics of deployment and maintenance.

Furthermore, this effort has led to a working partnership between DMS and the NOAA National Data Buoy Center (NDBC) at the John C. Stennis Space Center. NDBC is providing assistance for Quality Assurance and Quality Control (QA/QC) of meteorological data collected from the buoy and subsequent distribution to the National Weather Service for use in forecasting, prediction, and emergency management. Additional observational data are received, processed, and made available to the public locally through the DMS website (www.cengoos.org) and via the GCOOS data stream.

This project seeks to expand coastal observational efforts in the northern central Gulf Coast, to integrate these activities with other regional observation networks in the Gulf by working through the GCOOS-RA, and to establish partnerships with a broad user community. Collaboration with NOAA NDBC and other agencies (e.g., NOAA National Coastal Data Development Center) will enable the data stream from our observations to be incorporated into the national IOOS backbone. Specific goals for this first phase of the enhancement and integration of CenGOOS will involve installation of coastal high frequency (HF) radar sites for surface current measurement. An additional buoy will be deployed at a strategic location on the shelf in the Mississippi Bight. A close collaboration with modeling expertise at the Naval Research Laboratory will provide a physical and ecological framework for interpretation of observational data. Episodic ship surveys and maintenance cruises will also be performed in the Mississippi Sound and Bight.

Subsequent phases of CenGOOS will involve installation of additional buoys and other sensors, such as, instrumented drifters, autonomous underwater vehicles (AUV), and autonomous profilers. These efforts will be closely coordinated with other central Gulf organizations and agencies to enhance both regional and national IOOS capabilities.